RIPE NCC
RIPE NETWORK COORDINATION CENTRE

RIPE NCC RIS

Routing Information Service

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What is RIS?

- RIS is a routing data collection platform
- Collecting BGP data since 1999
- Up-to-date routing information, as opposed to information in databases and routing registries, such as:
  - What is being announced
  - Which prefixes are seen and where
  - Which ones are not seen

THANK YOU TO OUR COMMUNITY

22 collectors

1446 global peers

RIS Collectors

Collector	Location	IXP	Deployed	Removed	Collector	Location	IXP	Deployed	
RRC00	Amsterdam	Multi-hop	1999		RRC13	Moscow	MSK-IX	2005	
RRC01	London	LINX	2000		RRC14	Palo Alto	PAIX	2005	
RRC02	Paris	SFINX	2001	2008	RRC15	Sao Paulo	PTT-Metro SP	2006	
RRC03	Amsterdam	AMS-IX	2001		RRC16	Miami	NOTA	2008	
RRC04	Geneva	CIXP	2001		RRC18	Barcelona	CATNIX	2015	
RRC05	Vienna	VIX	2001						
RRC06	Tokyo	DIX-IE	2001		RRC19	Johannesburg	NAPAfrica JB	2016	
RRC07	Stockholm	Netnod	2002		RRC20	Zurich	SwissIX	2015	
RRC08	San Jose	MAE-West	2002	2004	RRC21	Paris	FranceIX	2015	
RRC09	Zurich	TIX	2003	2004	RRC22	Bucharest	InterLAN	2017	
RRC10	Milan	MIX	2003		RRC23	Singapore	Equinix SG	2017	
RRC11	New York	NYIIX	2004		RRC24	Montevideo	LACNIC multi-hop	2019	
RRC12	Frankfurt	DE-CIX	2004		RRC25	Amsterdam	RIPE multi-hop	2021	

Why collect BGP data?

- The Internet routing system doesn’t have in-built security mechanisms
- Better visibility = greater security = lower risk of a BGP hijack

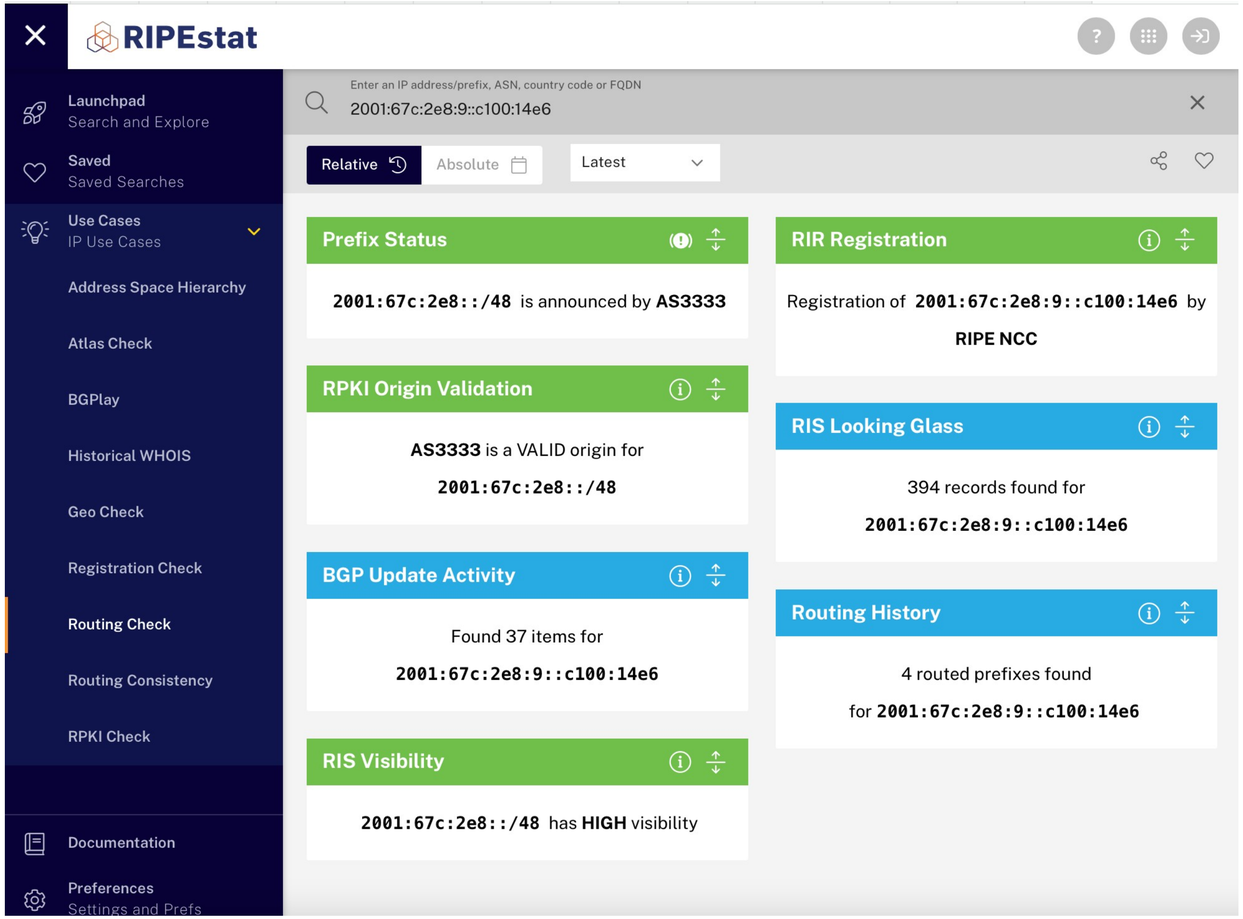
Who is RIS for?

- Network operators, policy makers
  - To check specific routing incidents
  - To troubleshoot Internet routing
  - To develop future plans based on routing trends

- Researchers
  - To investigate notable events occurring in the Internet (i.e. network disruptions in specific countries, Facebook outage, etc)

How can you use RIS?

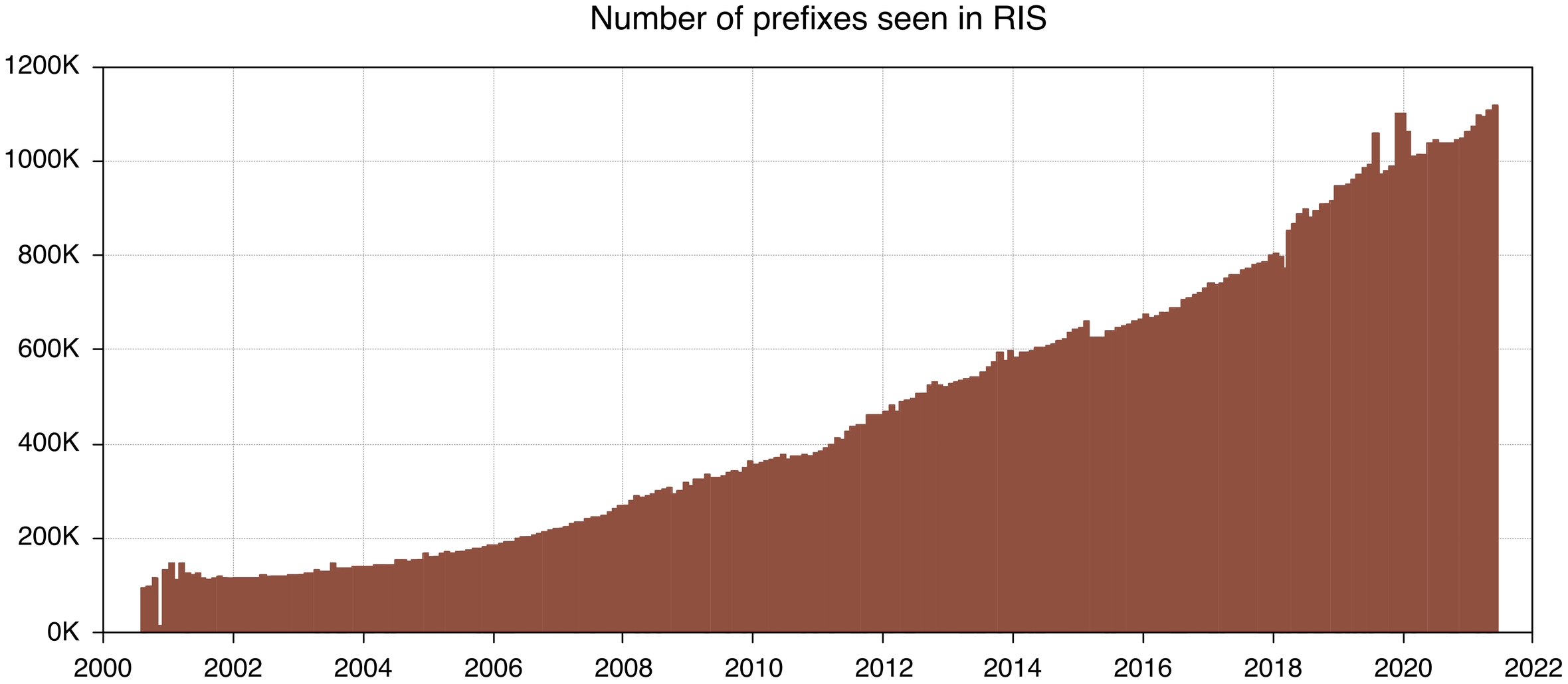
- Available as:
  - Raw data
  - Live stream (RIS Live)
  - Whois query interface (RISwhois)
- Visualisations available in RIPEstat



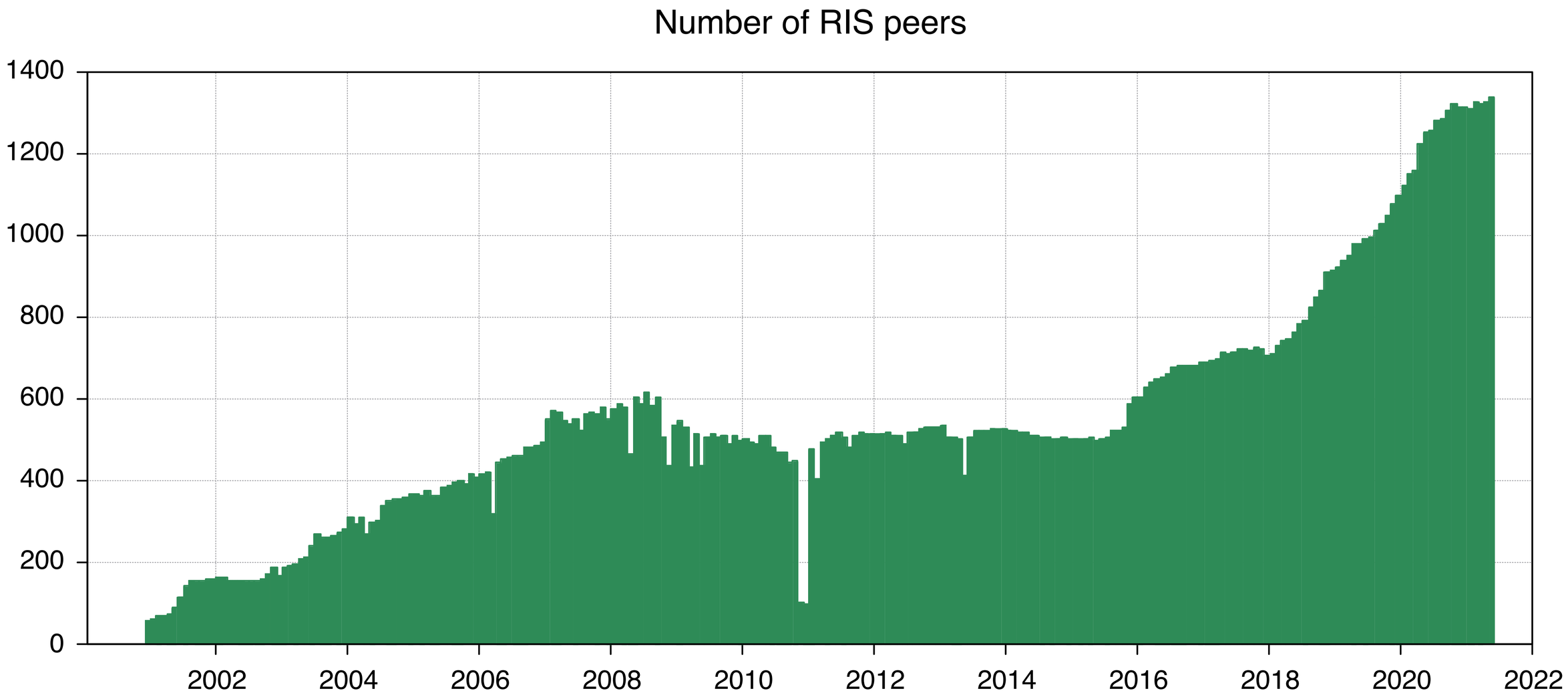
More tools to use RIS

- Others have developed tools based on RIS data
- bgp.he.net
  - This service uses RIS data and provides a dashboard with various aspects of the Internet routing system.
- BGPalerter
  - This software monitors RIS data in near real-time to detect route hijacks and other incidents.
- https://ihr.iijlab.net/ihr/en-us/ (Internet Health Report) / CAIDA IODA
  - These research projects uses RIS data to build experimental views using Internet routing data.

BGP Growth – Number of Prefixes



RIS Growth – Number of Peers



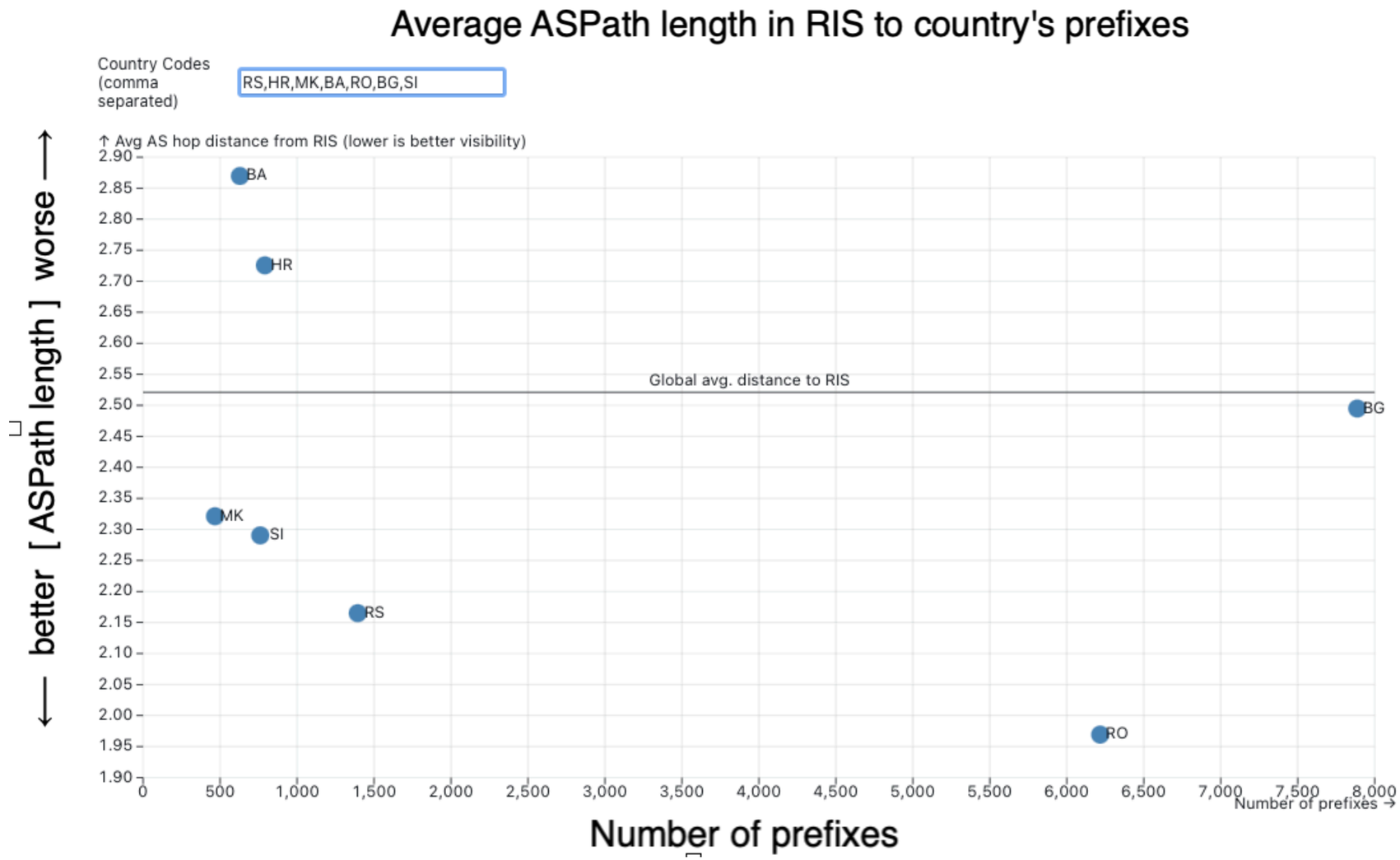
Negative Effects of Growth

- More data does not bring more diversity in routes
- More peers bring more noise in the data
- More input data causes bigger delays for output data

Planned Improvements

- Pipeline improvements (shorter delays for output)
- Peering coordination
  - Diversity encouraged
  - Increasing coverage in RIPE NCC region
- Higher multi-hop capacity
- Prototypes showing useful data
  - Public Kafka
  - Metadata for peers
- Updated RIS website and documentation

Distance from SEE countries



https://observablehq.com/@emileaben/what-peers-would-decrease-as-distance-to-ris-most

Peer with RIS!

- We are inviting **representative networks** in Serbia to peer with RIS!
  - Send us an email: ris-peering@ripe.net
  - Send us a peering request
  - Provide full feed when possible
- Goals
  - Better routing visibility and more security for
    - Your network
    - Serbia
    - The Internet

Questions

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https://ris.ripe.net